



Description of DE3921145

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Except nature leathers and high gloss leather surfaces leathers also unpolished have an economic meaning. Such unpolished leather surfaces become for example obtained by coating the surfaces with coating agents, which contain at least one bonding agent and egg finely divided pigment or a finely divided filler. Such coating agents contain casein or polymer dispersions as bonding agents and gefällte silica, Clay or various inorganic pigments as matting agents. Leather surfaces, which were unpolished with these preparations, show a smoothing with corresponding gloss increase with stress of the leather-flat. Per prolonged and the per strong leather surface, for example by rubbing or shocks is stressed, all the glossier becomes the leather, so that the actual desired matt finish effect is lost.

The current invention is the basis the object to place a method to unpolishing from leather surfaces to the order with which one receives unpolished leather surfaces, which remains also with a mechanical stress of the leather surface obtained.

The object becomes dissolved according to invention with a method unpolishing leather surfaces through jobs of coating agents, which are present in the form of solutions in an organic solvent or in the form of aqueous dispersions and which contain a matting agent in each case, on the leather surface and drying the so treated leathers, if one begins as matting agent microcapsules with an average particle size from 2 to 50  $\mu\text{m}$ . If in such a way adjusted leather mechanical is stressed, for example polished, gloss-pushed or also only used one, then the matt finish effect remains surprisingly obtained. Simultaneous one becomes with the matt finish according to invention of leather surfaces a egalere, filled leather surface achieved.

Suitable coating agents for the primer and finish of leather surfaces are known, see. for example Ullmann Encyclopädie of the technical chemistry, 3. Edition, Urban and Schwarzenberg, Munich Berlin 1960, sides 577 to 585. For the invention process come all for the leather side dressing conventional coating agents into considerations. The coating agents can contain the bonding agent of for example dissolved in an organic solvent or in the form of aqueous dispersions.

To the most important coating agents, which become dissolved applied in an organic solvent, high and medium viscous collodio-wool belongs. These products with the softening agents conventional for it mostly become used. As solvents of used one alcohols or mixtures of alcohols like her usually for Nitrocelluloselacke used becomes.

Suitable aqueous dispersions, which represent the binder of the coating agent, are for example Polyacrylat, PU and butadiene polymer dispersions. Suitable products of this type become for example in the US-PS 37 36 475 and in the EP-PS 0,100,493 described. Suitable Polyacrylat dispersions are for example obtainable by Copolymerisieren from  $\text{C}_1$  to  $\text{C}_6$ -Alkylestern of the acrylic acid or methacrylic acid with ethylenic unsaturated  $\text{C}_3$  to  $\text{C}_8$ -Carbonsäuren. The copolymers contain for example 30 to 98 Gew. - % of an alkyl ester of the acrylic acid or methacrylic acid, 1 to 10 Gew. - % of an ethylenic unsaturated carbonic acid, a preferred acrylic acid or a methacrylic acid and if necessary. to the addition on 100 Gew. - in addition %, at

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least a comonomer from the group acrylonitrile, acrylamide, methacrylamide, vinyl chloride, vinyl acetate and/or styrene-suitable are copolymers the 50 to 90 Gew. - % vinylidene chloride and 10 to 50 Gew. - % of a C2 to C4-Alkylesters of the acrylic acid or methacrylic acid and if necessary. 0 to 5 Gew. - % N-methylolacrylamide or N-Methylolmethacrylamid and if necessary. up to 5 Gew. - % acrylamide or methacrylamide in-polymerised contain. Suitable binders can consist also of copolymers with a predominant portion of in-polymerised vinyl chloride, e.g. from 75 to 85 Gew. - % vinyl chloride and 15 to 25 Gew. - % of an acrylic acid ester, preferably acrylic acid-methyl-ester-suitable polymer bonding agents are also aqueous ionomere polyester PU dispersions, like them the bottom trade name ASTACIN finish PUD known are, polyester PU dispersions are for example obtainable by conversion of polyester oils from adipic acid and or several aliphatic diols, like hexanediols and Neopentylglykol, and polyurethanes from aliphatic or aromatic diisocyanates, like hexamethylene diisocyanate or Toluylendiisocyanat, with an aliphatic diol, like Butandiol-1,4.

As bonding agent in coating agents one in addition 8 to 25 can gew. - % ige aqueous or colloidal solutions of casein use. All coating agents can contain the conventional known additions, of for example sulfonated Ricinusöl, cationic emulsified peanut oil, month increasing emulsions, Polyglykolether and if necessary. Pigments.

The conventional coating agents, which become either priming and/or Appretieren of leather surfaces used, according to invention contain as matting agents microcapsules with an average particle size from 2 to 50  $\mu\text{m}$ . The microcapsules can consist either of urea formaldehyde or Melamin formaldehydecondensates or contain these condensates as wall material and as core material hydrocarbon oils. For unpolishing leather surfaces used one preferably microcapsules, whose wall material of a Melamin formaldehydecondensation product and its core material consist of at least an hydrocarbon oil. Products of this type are for example 0,026,914 known from the US-PS 30 16 308 and the EP-PS. After the method of the EP-PS 00 26 914 microcapsules become by condensation from Melamin formaldehyde before condensates and/or their c1 to C4-Alkylethern in waters, in which solid, liquid or gaseous, essentially water-insoluble, the cap core is forming material dispersed, in presence of particular sulfonsäuregruppenhaltigen polymers at pH values of 3 to 6.5 and temperatures of 20 to 100 DEG C prepared. As core material for the matting agents of used one hydrocarbon oils which can be used in accordance with invention, e.g. Dodezylbenzol, Diisopropyl-naphthal, chlorinated paraffin or kerosene.

These hydrocarbon oils can if necessary. still contain fragrances, dyes, silicone oils, wax, Antioxidantien, fungicidal ones, UV absorbers or mixtures several substances. The average particle diameter of the microcapsules amounts to 2 to 50, preferably 3 to 10  $\mu\text{m}$ . Microcapsules can become in form of an aqueous dispersion or also as powders with the coating agent mixed. The coating agents contain, related to the solids, 0.5 to 20, preferably 5 to 10 Gew. - % at microcapsules.

The matt finish of leather surfaces made in actual usual manner by in or repeated jobs of coating agents, which contain microcapsules with an average particle size of to 50  $\mu\text{m}$ . Bottom coating agents are in this connection both primers and finishes the side dressing of leather understood to become. The coating agents become in or several times on the leather surface applied, e.g. by syringes, pouring, Plüschchen or printing. Preferred one the made job of the coating agents by syringes. After each job of the mikrokapselhaltigen coating agents the leather becomes dried. The drying temperatures amount to 30 to 100 DEG C. The solid quantities laid on on the leather surface amount to 10 to 100 g per  $\text{m}^2$ . Those coating agents which can be used according to invention can contain if necessary still gefällte silica, China Clay or titanium dioxide or mixtures of the fabrics mentioned or other pigments.

The use of microcapsules with an average particle size from 2 to 50  $\mu\text{m}$  as matting agents in primers and/or finishes for the side dressing of leather results in in all cases after evaporating the solvents and/or. Dispersing agent a matt surface. This application of microcapsules is not only suitable for the matt finish of leather surfaces, but can also when coating other materials, like paper, textiles, wood, minerals, metals or plastics achieved become. During the matt finish

of leather one proceeds preferably in such a way that for the primer and for the finish used in each case coating agents microcapsules contain.

The parts indicated in the examples are parts by weight, the percentages mean weight percentage.

#### Example 1

A commercial 40%ige micro cap dispersion (prepared after the regulation by caps of Dodezylbenzol as sole core material, given in example 1 the EP-PS 0,026,014, and Melamin formaldehyde a condensate as wall material) is registered to 150 parts of a Polyacrylat dispersion of the type LEPTON binder SD into a mixture from 100 parts of a pigment dispersion of the type LEPTON Black, and and 50 parts of a Polyacrylat dispersion of the type CORIAL reason OHN and by addition of 600 parts waters and 50 parts of a nitrocellulose emulsion of the type CORIAL EM-finish offset. The so obtained coating central mixture becomes applied with the help of a spraygun during the leather side dressing once in and with a repetition with another leather substrate in 3 layers. The matt finish effect adjusts itself in both cases immediately after evaporating the solvents, is durable and cannot by rubbing not eliminated become.

#### Example 2

Example 1 becomes repeated with the only exception that one the amount as matting agent used 40-%igen micro cap dispersion on 100 parts increased. After drying the coating agents one receives the matt finish effect described in example 1, which precipitates however due to the higher amount at Mikrokapseldisperion stronger.

#### Example 3

One makes first a primer of the subsequent components: 100 parts pigment dispersion of the type LEPTON black one,  
30 parts of a wax dispersion of the type LEPTON wax A,  
445 parts waters,  
222 parts polyacrylate of a dispersion of the type LEPTON binder SD,  
80 parts polyacrylate of a dispersion of the type CORIAL reason OHN,  
50 parts of a Nitrocelluloseemulsion of the type CORIAL EM-finish G and  
75 parts of the micro cap dispersion described in example 1.

The so obtained coating agent is ironed with the help of a spraygun on a leather surface applied and with 70 DEG C (50 bar). Jobs of the described coating central mixture and brackets becomes again repeated. The primer so obtained on the leather surface becomes subsequent coated, which consists of 100 parts of an Nitrocellulose emulsion of the type CDRIAL EM-finish LS, with a finish, parts waters and 10 parts of the 40%igen micro cap dispersion described in example 1. The matte effect already obtained by the primer becomes by the subsequent finish with the microcapsule contained Nitrocellulose emulsion still amplified.

Primers, which are with coating agents obtainable, which do not have microcapsules however subsequent with a mikrokapselhaltigen finish coated become, give likewise excellent matte effects. If the microcapsules lie in the primer and the finish layered over it contains no microcapsules, the matte effect is not so distinct.

Examinations on the leather testing set Flexometer JUP 20 (Bally) do not have an otherwise conventional grey break shown in the dry state with 50,000 kinks and in the wet state with 20,000 kinks.



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Claims of DE3921145

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1. Method for unpolishing leather surfaces through jobs of coating agents, which are present in the form of solutions in an organic solvent or in the form of aqueous dispersions and which contain a matting agent in each case, on which and drying the so treated leathers, characterised in that one as matting agent microcapsules with an average particle size from 2 to 50  $\mu\text{m}$  uses leather surface.
2. Process according to claim 1, characterised in that the wall material of the microcapsules from urea formaldehyde or Melamin formaldehydecondensates exists.
3. Process according to claim 1 or 2, characterised in that the microcapsules as core material of hydrocarbon oils contain, which if necessary of fragrances, dyes, silicone oils, wax, Antioxidantien, fungicidal ones, UV-Absorber or mixtures of it contain
4. Process according to one of claims 1 to 3, characterised in that the coating agents, related to solids, 0.5 to 20 Gew. - % microcapsules contain.
5. Use of microcapsules with an average particle size from 2 to 50  $\mu\text{m}$  as matting agents in primers and/or finishes for the side dressing of leather.

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